



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,942	02/13/2002	Arno Jambor	10537/197	9842

26646 7590 06/28/2005

KENYON & KENYON  
ONE BROADWAY  
NEW YORK, NY 10004

EXAMINER

POE, MICHAEL I

ART UNIT PAPER NUMBER

1732

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/075,942	JAMBOR ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael I. Poe	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)          |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. <u>20050204</u> .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____.  | 6) <input type="checkbox"/> Other: _____.                                   |

*10*

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 28, 2005 has been entered.

### ***Amendments***

2. Applicant's amendment filed on February 28, 2005 has been entered. Based upon the entry of this amendment, existing claims 1 and 4 have been amended, no existing claims have been canceled, and new claim 8 has been added. Claims 1-8 are currently pending.

### ***Election/Restrictions***

3. Claims 6 and 7 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on March 19, 2004.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Publication No. 59-024636 A (Hieda et al.) in view of U.S. Patent No. 3,757,559 (Welsh).

Art Unit: 1732

**Claims 1-4 and 8**

Hieda et al. teach a working method for forming a cushioning and heat insulating material including providing a bar heater 1 having a U-like configuration in cross-section at its bottom part and a V-like configuration in cross-section at its upper part connecting to the bottom part; heat-pressing the bar heater 1 into a sheet-like thermoplastic foamed resin material 2 (a substantially plate-shaped, thermoplastic workpiece) from its surface toward its back so far no to pierce therethrough in order to form a nearly V-like groove in the sheet-like foamed resin material 2 whereby the bar heater 1 penetrates into the sheet-like foamed resin material 2 and heats the walls of the groove to a molten state (heating a bending region of the workpiece at least up to plasticization; inserting a bending element into the workpiece up to an apex of a desired bend; the step of heating the bending element); and bending the sheet-like foamed resin material 2 at the center line of the groove (bending the bend region) so as to fuse both the walls of the groove, still in the molten state, to each other in order to form the cushioning and heat insulating material (moving the bending element out of the workpiece; sealing a gap that was created in the workpiece by the bending element in the inserting step) (English abstract and full translation). Note that the claims, as currently written, do not specifically require preheating of the bending region prior to inserting of the bending element; therefore, the claims are readable on heating of the bending region concurrently with the insertion of the bending element as taught in the process of Hieda et al.

Hieda et al. do not teach bending the bending region about the bar heater acting on the sheet-like foamed resin material about a front end, relative to the insertion direction, of the inserted bar heater; moving the bending element out of the workpiece after the bending step; and that the workpiece includes a sandwich panel. However, Welsh teaches a method for making structural panel bent from laminated honeycomb including providing a laminated, honeycomb panel 10 optionally comprising outer skins formed of a ductile, nonmetal material and a foamed synthetic polymer core (the workpiece includes a sandwich panel); bending the panel 10 between a punch 30 and a die having shoulders 32 and 34 such that the round nose of the punch 30 penetrates into the panel 10 (inserting a bending element into the workpiece up to an apex of a desired bend; bending the bending region about the bending element acting on the workpiece about a front end, relative to an insertion direction, of the inserted bending element) by

Art Unit: 1732

lowering the punch 30 into the panel 10; and, after the bend is made, the punch 30 is withdrawn in an upward direction to allow the bent panel 10 to be removed (moving the bending element out of the workpiece after the bending step) (column 2, line 63 - column 4, line 23; column 4, lines 34-59). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to bend a sandwich panel around the end of the bar heater in the process of Hieda et al. as taught by Welsh to minimize damage to the skins of the sandwich panel surrounding the bending region while allowing the gap formed at the bending region to be sealed and to prevent cooling of the molten walls during the bending operation.

With regard to claim 8, Hieda et al. further teach that there is a bending pressure on the foam resin material at the centerline of the slot so both walls of the slot, still in a molten state, become fused (2<sup>nd</sup> paragraph on page 5 of translation of Hieda et al.). Since Hieda et al. obviously requires that a certain amount of bending pressure to be applied to effect fusing of the walls of the slot at the bending region, one of ordinary skill in the art would have obviously recognized, when viewing the teachings of Hieda et al. in view of Welsh as a whole, that some further bending of the workpiece must obviously occur during removal of the bending tool in the process of Hieda et al. in view of Welsh to thereby assure proper fusing of the walls of the slot (e.g., further bending the workpiece to seal a gap that was created in the workpiece by the bending element in the inserting step). Such further bending in the process of Hieda et al. in view of Welsh would obviously caused the walls of the slot to be guided together behind the bending element as the bending element was moved out of the workpiece in the process of Hieda et al. in view of Welsh.

#### **Claim 5**

The discussion of Hieda et al. and Welsh as applied to claim 1 above applies herein.

Hieda et al. in view of Welsh do not apparently teach repeating the heating, inserting and bending steps a plurality of times at various locations along the workpiece to form a curved or arched shaped workpiece (e.g., to generate a polyline). However, in this regard, the examiner takes official notice that it was generally well known in the art at the time the invention was made to form curved or arched molded articles from a workpiece by bending the workpiece a plurality of times at various locations along the workpiece to form the workpiece into an arched or curved shape (e.g., to generate a polyline) (see, for

Art Unit: 1732

example, the prior art cited of interest in *Conclusion* section of the Office Action mailed on April 7, 2004). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to form a curved or arched molded article from a workpiece by bending the workpiece a plurality of times at various locations along the workpiece to form the workpiece into an arched or curved shape (e.g., to generate a polyline) in the process of Hieda et al. in view of Welsh as was well known in the art to provide an article having a complex curvature thereby providing an article with greater aesthetic appeal.

### ***Response to Arguments***

6. Applicant's arguments, with respect to the teachings of Hieda et al., filed on February 28, 2005 have been fully considered but they are not persuasive as set forth below. Applicant's arguments, with respect to Tremain et al. and its combination with Hieda et al., filed on February 28, 2005 have been considered but are moot in view of the new ground(s) of rejection.

The applicant argues that Hieda et al. teach away from the use of a bending element during the bending operation because: (1) Hieda et al. considers the shape of the slot important to proper fusing; and (2) bending about a bar heater would not result in a slot having the ideal shape disclosed by Hieda et al. In this regard, the examiner stipulates that bending about the bar heater would not affect the shape of the slot as suggested by the applicant. In the process of Hieda et al. in view of Welsh, the bar heater would be used as the bending element during the entire bending operation and it would maintain the shape of the slot during the entire bending operation. As such, the slot would not be capable of changing shape due to the presence of the bar heater within the workpiece during the bending operation. When the bar heater was raised after the completion of the bending operation in the process of Hieda et al. in view of Welsh, the molten walls of the slot would begin to flow, seal together, and become fused as the bar heater exited the slot. This process would not differ functionally from the application of the required bending pressure absent the bar heater. For the reasons provide above, the applicant's arguments in this regard are considered unpersuasive by the examiner.

Art Unit: 1732

The applicant further argues that, since the bar heater in the process of Hieda et al. has a relatively large width in comparison to the thickness of the material at the vertex of the joint, leaving the bar heater in the workpiece during the bending operation may in fact lead to complete failure of the material at the joint. Although the examiner acknowledges that the figures of Hieda et al. would appear to suggest the failure of the workpiece during bending about the bar heater as stipulated by the applicant, the examiner stipulates that Welsh provides evidence that such bending would be possible. As discussed above, Welsh teaches bending a sandwich panel 10 about a punch 30 wherein the foam core of the panel 10 is crushed by insertion of the punch 30 to thereby allow bending of the panel 10. Based upon this teaching by Welsh, one of ordinary skill in the art would have obviously recognized that the insertion of the bar heater in the process of Hieda et al. would have cause localized crushing of the foam workpiece in the bending region. As evidenced by Welsh, this localized crushing would allow bending of the foam workpiece about the bar heater in the process of Hieda et al. For the reasons provided above, the applicant's arguments in this regard are considered unpersuasive by the examiner.

### ***Conclusion***


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 1,872,482 (Messing), U.S. Patent No. 3,649,398 (Keith) and U.S. Patent No. 6,855,284 B2 (Lanni et al.) have been cited of interest to show the state of the art at the time the invention was made.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael I. Poe whose telephone number is (571) 272-1207. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**MICHAEL P. COLAIANNI**  
**SUPERVISORY PATENT EXAMINER**



Michael I. Poe  
Patent Examiner  
Art Unit 1732